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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/840,070	05/05/2004	Roy J. Riccomini	PA2210US	6645
22830	7590	01/24/2005	EXAMINER	
CARR & FERRELL LLP 2200 GENG ROAD PALO ALTO, CA 94303			OSORIO, RICARDO	
			ART UNIT	PAPER NUMBER
			2673	
DATE MAILED: 01/24/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/840,070

Applicant(s)

RICCOMINI ET AL.

Examiner

RICARDO L OSORIO

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 4, 5, 6, 8-11, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Kudoh (6,751,312).

Regarding claims 1 and 9, Kudoh teaches of a hand-held computing device (col. 1, lines 12-14) comprising: a housing sized to be held in hands of a user during operation of the device (Fig. 1, reference character 102), the housing having an upper surface defining a first plane (Fig. 1, reference character 104); a display disposed on the upper surface of the housing (Fig. 1, reference character 108); and a set of controls integrated with the housing for providing user input to a processor, the set of controls being positioned about the housing so as to enable manipulation by digits of the user, the set of controls including at least one analog input device for generating an analog signal representing displacement information (see col. 1, line 42-col. 2, line 6).

Regarding claims 2 and 10, Kudoh teaches that the analog input device comprises a joystick terminating at its upper end in a cap (col. 4, lines 51-53).

Regarding claims 4 and 13, Kudoh teaches that the cap comprises a concave shaped top (Fig. 6, reference character 8A).

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Regarding claims 5, 6, and 11, Kudoh teaches that the cap is disposed at least partially in a well located within, or defined by a portion of, the upper surface such that the cap does not protrude substantially above the first plane (col. 6, lines 7-10).

Regarding claim 8, Kudoh teaches that the at least one analog input device is configured to generate first and second analog signals representative of displacement in a first and a second mutually orthogonal dimensions (see col. 1, line 42-col. 2, line 6).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudoh in view of Slotta (6,724,369).

Regarding claims 3 and 12, Kudoh fails to specifically teach of the cap comprising a convex shaped top.

Slotta teaches of a cap comprising a convex shaped top (Fig. 11, reference character 505). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the joystick cap with a convex shaped top, as taught by Slotta, in the device of Kudoh since it is well known in the art of pointing sticks to use joystick caps shaped either convex or concave, alternately, as desired by the user/manufacturer to suite the comfort or practicality of the user, for example, a concave cap helps the user at least in resting his finger on

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it, and the convex cap helps the user at least in identifying the cap easier and for tactile feedback purposes (see Fig. 9, reference character 408, Fig. 11, reference character 505, col. 8, lines 44-46, and col. 9, lines 8-10).

5. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudoh in view of Martin et al. (6,563,487).

Regarding claims 7 and 14, Kudoh fails to specifically teach that the analog input device comprises a trackball.

Martin teaches that a trackball can be used instead of the joystick (col. 5, line 64-col. 6, line 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the trackball, as taught by Martin, instead of the joystick of Kudoh since the joystick and the trackball can be interchangeably used for operating similarly (col. 6, lines 3-5).

6. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudoh in view of Grome et al (6,580,418).

Regarding claim 15, Kudoh fails to specifically teach that the means to provide user input includes at least a potentiometer.

Grome teaches that the means to provide user input includes at least a potentiometer (col. 4, lines 25-28).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the potentiometer, as taught by Grome, in the device of Kudoh because a potentiometer is well known in the art of sensors to be one of other possible choices of position sensors used to produce a signal indicative of the angular position of the control handle (col. 4, lines 25-28).

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Regarding claim 16, Kudoh fails to specifically teach of means for limiting force resulting from manipulation by the digits of the user.

Grome teaches of means for limiting force resulting from manipulation by the digits of the user (col. 14, lines 53-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the limiting means, as taught by Grome, in the device of Kudoh because calibration is well known in the art of calibration to set the boundaries of use of input devices and how the different actions or movements of the input devices will be read, in this case, a joystick (col. 14, lines 53-65).

7. Claims 17-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grome et al (6,580,418) in view of Redlich (5,877,748).

Regarding claims 17 and 21, Grome teaches of a computer readable medium having embodied thereon a program, the program being executable by a machine to perform a method for calibrating an analog input device of a handheld computing device (col. 12, lines 40-43), the method comprising the steps of reading values corresponding to the maximum deflection of the analog input device in a first and a second dimension (col. 12, lines 52-54 and 60-62); and mapping values corresponding to the maximum deflection of the analog input device to a range of digital values (col. 12, lines 54-62).

However, the device of Grome does not specifically teach of reading a neutral value corresponding to a null position of the analog input device and computing a dead zone corresponding to a slight deflection of the analog input device.

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Redlich teaches, in calibrating either a mouse or a joystick, of reading a neutral value corresponding to a null position of the analog input device and computing a dead zone corresponding to a slight deflection of the analog input device (abstract lines 6-9, col. 5, lines 10-21 and col. 9, lines 19-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the no-motion zone, as taught by Redlich, in the device of Grome, because this region is used as a safely region where no unintended movement, or drift, affects, for example, game play, or any other inadvertent input device action (col. 9, lines 19-27).

Regarding claims 18 and 22, Grome teaches of receiving via a digital input device a calibration initiation request (col. 12, lines 40-52. Notice that it is inherent to use a digital input device to make a selection, or initiation request).

Regarding claims 19 and 23, Grome teaches of prompting the user to manipulate the analog input device (col. 12, lines 52-54).

Regarding claims 20 and 24, Grome teaches of reading values corresponding to maximum circumferential travel of the analog input device (col. 13, lines 8-10).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ricardo L. Osorio whose telephone number is 703 305-2248. The examiner can normally be reached on Monday through Thursday from 7:00 A.M. to 5:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala whose telephone number is 703 305-4938.

Any response to this action should be mailed to:

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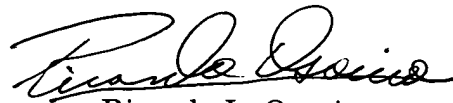
Washington, D.C. 20231

or faxed to:

703 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor (Receptionist).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ricardo L. Osorio  
Examiner  
Art Unit: 2673

RLO  
January 18, 2005